

**Mercy Hospital
Cumberland County
Portland, Maine
A-201-71-H-R/A**

**Departmental
Findings of Fact and Order
Air Emission License**

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

1. Mercy Hospital (Mercy) located in Portland, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their healthcare facility.
2. Mercy has requested an amendment to their license in order to:
 - a. Increase the allowable hours of operation of the emergency generators from 100 to 500 hours per year and,
 - b. Change the requirement to fire #2 fuel oil with a sulfur limit not to exceed 0.35% by weight to a requirement to fire fuel which meets the ASTM definition of #2 fuel oil.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type</u>	<u>Stack #</u>
Boiler #1	5.0	#2 fuel oil, natural gas	1
Boiler #2	7.0	#2 fuel oil, natural gas	1
Boiler #3	10.2	#2 fuel oil, natural gas	1

Electrical Generation Equipment

<u>Equipment</u>	<u>Power Output (kW)</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type</u>
Generator A	250	2.4	#2 fuel oil
Generator B	275	2.7	#2 fuel oil

Process Equipment

Mercy operates a Tekusolv II cold cleaner solvent degreaser parts washer.

C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the “Significant Emission Levels” as defined in the Department’s regulations. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Sig. Level</u>
PM	7.3	7.3	--	100
PM ₁₀	7.3	7.3	--	100
SO ₂	10.0	14.8	+4.8	100
NO _x	12.5	17.1	+4.6	100
CO	3.7	4.7	+1.0	100
VOC	0.5	0.7	+0.2	50

This modification is determined to be a minor modification. Therefore, this application is classified as a renewal with a minor modification and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations. Separate control

requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boilers #1, #2, #3

Boilers #1, #2, and #3 fire both #2 fuel oil and natural gas and are used for facility heating and hot water needs.

Boilers #1 and #2 each have maximum heat inputs of less than 10.0 MMBtu/hr and are therefore not subject to the New Source Performance Standards (NSPS) Subpart Dc for steam generating units greater than 10 MMBtu/hr manufactured after June 9, 1989.

Boiler #3 was manufactured and installed in 1984 and is therefore also not subject to NSPS Subpart Dc.

A summary of the BPT analysis for Boiler #1 (5.0 MMBtu/hr), Boiler #2 (7.0 MMBtu/hr), and Boiler #3 (10.2 MMBtu/hr) is the following:

1. The total #2 fuel oil use for Boilers #1, #2, and #3 combined shall not exceed 400,000 gal/year based on a 12 month rolling total.
2. The total natural gas use for Boilers #1, #2, and #3 combined shall not exceed 60 MMscf/year based on a 12 month rolling total.
3. The SO₂ emission limits are based on the firing of fuel which meets the criteria in ASTM D396 for #2 fuel oil. This represents a change in record keeping from Mercy's previous license. However, it is the Department's opinion that this change will cause little to no change in actual emissions of SO₂.
4. Chapter 103 regulates PM emission limits. The PM₁₀ limits are derived from the PM limits.
5. NO_x emission limits are based on data from similar boilers of this size and age.
6. CO and VOC emission limits are based upon AP-42 data.
7. Visible emissions from the boiler's combined stack shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period.

C. Emergency Generators

Mercy operates two back-up diesel generators. Back-up generators are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Back-up generators are not to be used for prime power when reliable offsite power is available.

A summary of the BPT analysis for Generator A (250 kW) and Generator B (275 kW) is the following:

1. The back-up generators shall fire only #2 fuel oil.
2. The back-up generators shall each be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
3. The SO₂ emission limits are based on the firing of fuel which meets the criteria in ASTM D396 for #2 fuel oil.
4. The PM and PM₁₀ limits are derived from Chapter 103.
5. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
6. Visible emissions from the back-up generators shall each not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.

D. Parts Washer

Records shall be kept of the solvent added and removed.

E. Annual Emissions

Mercy shall be restricted to the following annual emissions, based on a 12 month rolling total:

Total Licensed Annual Emission for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	PM₁₀	SO₂	NO_x	CO	VOC
#2 fuel oil firing	3.4	3.4	14.1	8.4	1.0	0.1
natural gas firing	3.7	3.7	0.1	3.0	2.5	0.2
Generator A	0.1	0.1	0.3	2.7	0.6	0.2
Generator B	0.1	0.1	0.3	3.0	0.6	0.2
Total TPY	7.3	7.3	14.8	17.1	4.7	0.7

III.AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

<u>Pollutant</u>	<u>Tons/Year</u>
PM	25
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on the above total facility emissions, Mercy is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-201-71-H-R/A subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples,

conducting inspections, or examining and copying records relating to emissions (Title 38 MRSA §347-C).

- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [MEDEP Chapter 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [MEDEP Chapter 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [MEDEP Chapter 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [MEDEP Chapter 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [MEDEP Chapter 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [MEDEP Chapter 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [MEDEP Chapter 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [MEDEP Chapter 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been

necessary in order to maintain compliance with the conditions of the air emission license. [MEDEP Chapter 115]

- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.
- [MEDEP Chapter 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[MEDEP Chapter 115]

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [MEDEP Chapter 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [MEDEP Chapter 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [MEDEP Chapter 115]

SPECIFIC CONDITIONS

(16) Boilers #1, #2, and #3

- A. Total #2 fuel oil use for Boilers #1, #2, and #3 combined shall not exceed 400,000 gal/yr. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered. Records of annual fuel use shall be kept on a 12-month rolling total basis. [MEDEP Chapter 115, BPT]
- B. Total natural gas fuel use for Boilers #1, #2, and #3 combined shall not exceed 60 MMscf/year. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered. Records of annual fuel use shall be kept on a 12-month rolling total basis. [MEDEP Chapter 115, BPT]

C. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a)
Boiler #2	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a)
Boiler #3	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a)

D. Emissions shall not exceed the following [MEDEP Chapter 115, BPT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.60	0.60	2.25	1.50	0.41	0.03
Boiler #2	0.84	0.84	3.53	2.10	0.57	0.04
Boiler #3	1.22	1.22	5.14	3.06	0.83	0.05

E. Visible emissions from the Boiler's combined stack shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period. [MEDEP Chapter 115, BPT]

(17) **Back-up Generators**

A. Mercy shall limit each of the Back-up Generators to 500 hr/yr of operation (based on a 12 month rolling total). An hour meter shall be maintained and operated on the Back-up Generators. [MEDEP Chapter 115, BPT]

B. The Back-up Generators shall only be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. The Back-up Generators shall not to be used for prime power when reliable offsite power is available. A log shall be maintained documenting the date, time, and reason for operation. [MEDEP Chapter 115, BPT]

C. The Back-up Generators shall fire #2 fuel oil. [MEDEP Chapter 115, BPT]

D. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator A	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a)
Generator B	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a)

E. Emissions shall not exceed the following [MEDEP Chapter 115, BPT]:

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator A	0.29	0.29	1.26	10.76	2.32	0.85
Generator B	0.32	0.32	1.38	11.82	2.55	0.94

F. Visible emissions from the Back-up Generators shall each not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [MEDEP Chapter 101]

(18) Parts Washer

Parts washers at Mercy are subject to MEDEP Chapter 130.

A. Mercy shall keep records of the amount of solvent added to each parts washer. [MEDEP Chapter 115, BPT]

B. The following are exempt from the requirements of Chapter 130 [MEDEP Chapter 130]:

1. Solvent cleaners using less than two liters (68 oz) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
2. Wipe cleaning; and,
3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.

C. The following standards apply to remote reservoir cold cleaning machines that are applicable sources under Chapter 130.

1. Mercy shall attach a permanent conspicuous label to each unit summarizing the following operational standards [MEDEP Chapter 130]:
 - (i) Waste solvent shall be collected and stored in closed containers.
 - (ii) Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15

seconds or until dripping ceases, whichever is longer.

- (iii) Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
 - (iv) The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
 - (v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the degreaser.
 - (vi) When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.
 - (vii) Spills during solvent transfer shall be cleaned immediately. Sorbent material shall be immediately stored in covered containers.
 - (viii) Work area fans shall not blow across the opening of the degreaser unit.
 - (ix) The solvent level shall not exceed the fill line.
2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches. [MEDEP Chapter 130, BPT]

- (19) Mercy shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (Title 38 MRSA §605).

(20) **Payment of Annual License Fee**

Mercy shall pay the annual air emission license fee within 30 days of December 31st of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 7/12/06

Date of application acceptance: 7/26/06

Date filed with the Board of Environmental Protection: _____

This Order prepared by Lynn Ross, Bureau of Air Quality.